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Examining the Relationship Between Organizational Age and Learning Organization Dimensions in the Pharmaceutical Sector

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Abstract. This study investigated whether there were significant differences in learning organization dimensions (LODs) based on an organization's age. A mixed methods approach combining a survey of 263 managers in Jordanian pharmaceutical companies with semi-structured interviews of 9 managers examined four LODs: supportive learning environment, concrete learning processes/practices, learning-focused leadership, and learning structures. Contrary to predictions, the quantitative analysis revealed no statistically significant distinctions in LODs by organizational age categories. Potential explanations are explored, including rapid growth trends and strong market competition among companies overriding age effects. The interviews highlighted relevant aspects like the focus on training, market analysis, and leadership encouragement of participation across older and younger firms. To foster learning in organizations, irrespective of their age, it is essential to establish a conductive learning atmosphere with well-defined learning methods and procedures. This entails challenging organizational routines, encouraging the sharing of new ideas by employees, reflecting on achievements, conducting experiments, regularly collecting information, and providing sufficient training to improve knowledge and skills. Additionally, organizations should foster a culture of continuous learning, focusing on managers' behavior to motivate employees to provide new ideas, learn, engage in discussions, support the sharing of knowledge, and showing a commitment to continuous learning and development. This study provides practical implications for organizations aiming to improve their learning capabilities. It highlights the significance of fostering supportive learning environments, implementing well-defined learning methods and procedures, and encouraging leadership that strengthens learning to improve the learning organization. Further research into organizational and industry context factors along with methodological improvements is recommended to better understand the complex links between company age and facets of an organization's functioning as a learning system.

Keywords: Organization's age, Learning organization dimensions, Concrete learning processes, Pharmaceutical sector.

1. Introduction

To address economic, political, ecological, and social challenges, learning organizations must prioritize continuous improvement in their learning capabilities to outpace competitors (Iqbal and Ahmad, 2020). In a competitive landscape, organizations must grasp customer needs, foster collective learning among employees, and encourage knowledge-sharing (Al-Fraihat et al., 2023). Garad and Gold (2019) highlight the importance of motivating employees to share knowledge, actively participate, and facilitate learning. Committing to acquiring new knowledge, fostering innovation, and mastering the learning process enables learning organizations to adapt and maintain agility (Janežič et al., 2018).

A thorough review of the existing literature has revealed a range of studies that have investigated learning capacity and learning orientation within different types of organizations. For instance, Coetzer et al. (2019) focused on small firms in their examination, while several other studies, including those conducted by Ur Rehman et al. (2019), Tian et al. (2021), Khan et al. (2021), Al Asheq et al. (2021), Valdez-Juárez et al. (2019), Martinez et al. (2020), and Abdul-Halim et al. (2019), concentrated on small to medium-sized enterprises (SMEs). In contrast, some studies, such as the one by Bilan et al. (2020), centered on larger corporate organizations. Additionally, certain studies, like that of Obeso et al. (2020), introduced the variable of organizational age as a control factor when examining the association between knowledge management processes, organizational learning, and the performance of the organization. Their findings indicated a partial correlation between organizational age and organizational performance. Several studies, including those by Augusto Felício et al. (2012) and Ağca et al. (2012), as well as Moriano et al. (2011) and Cucculelli (2017), found no significant impact or observed a non-significant or negative relationship between organizational age and Learning and Development Outcomes (LDOs). Conversely, Romero and Martínez-Román (2012) suggested that organizational age may foster innovation without playing a decisive role. In contrast, Le Bas and Poussing (2014) and Afshar Jahanshahi et al. (2018) reported a positive correlation between organizational age and LDOs. Despite this wealth of research, a critical synthesis is warranted to comprehensively understand how organizational age might exert influence on the dimensions of learning organizations. While Obeso et al. (2020) illuminated a partial correlation with organizational performance, a more synthesized examination is warranted to comprehensively grasp the multifaceted dynamics between organizational age and the various components constituting a learning organization. In response to this critical gap, our research aims to build upon these foundational studies, offering a more nuanced perspective on how organizational age intricately shapes LODs and advancing our theoretical understanding of the evolving nature of organizational learning.

The current study aims to scrutinize potential variations in LODs associated with organizational age. It aims to bridge a notable gap in the existing literature by investigating potential variations in the LODs with “organizational age”. Specifically, our research aims to explore disparities in the components of a “learning organization” linked to an “organization’s age”. To fulfil research objective, we propose a hybrid model that combines the dimensions of a “supportive learning environment”, “concrete learning processes and practices”, and “leadership that reinforces learning”, as originally formulated by Garvin et al. (2008), with the dimension of “creating learning organizations”, as delineated by Örtenblad (2004). By amalgamating these dimensions, our research makes a unique contribution to the current body of literature. It represents the first attempt to combine these specific dimensions to investigate aspects of the “learning organization” that are associated with organizational age. Ultimately, our study aims to provide a comprehensive understanding of the factors that underpin the effective implementation of learning organizations. Beyond mere exploration, our study is motivated by the desire to uncover the underlying dynamics driving these variations, thus contributing to a deeper understanding of organizational development over time.

The results of this study hold significant relevance for organizational managers and leaders, as they offer valuable insights into the significance of LODs in attaining success, irrespective of an “organization’s age”. This research will contribute to the expanding body of knowledge concerning

learning organizations, thereby furnishing valuable insights for prospective research endeavors in this domain.

The structure of the remainder of the paper is as follows: In Section 2, we provide an extensive review of the relevant literature. Following that, in Section 3, we delve into the development of our hypotheses. Section 4 is dedicated to detailing our chosen methodology and data analysis procedures, where we delineate our quantitative and qualitative approaches. Subsequently, Section 5 presents our findings, encompassing the outcomes of our hypothesis testing and qualitative analysis. The discussion of these results unfolds in Section 6. Finally, in Section 7, we address the research limitations encountered during this study and outline avenues for future research.

2. Related Work

Numerous scholars have explored “learning organization” across diverse industries and sectors. They contend that organizations must undergo continuous development and improvement to embrace the identity of a learning organization, which is essential for achieving favorable outcomes in various fields. Notably, in the healthcare sector, researchers such as Ward et al. (2018) have emphasized the significance of this approach. Similarly, in higher education, scholars like Ponnuswamy and Manohar (2014) have explored its relevance. In the non-profit sector, the research conducted by Hayes (2002) and Dobrai and Farkas (2016) shed light on this topic, while the public sector has been examined in studies by Olejarski et al. (2018). Learning organizations have also been discussed in the context of schools, with contributions from Field (2019) and Sheng et al. (2021). Furthermore, the private sector's engagement with the concept of learning organizations has been explored in research such as those by Malik and Garg (2020).

Learning organization has been consistently advocated as a potential solution applicable across diverse organizational contexts, with the potential to enhance overall organizational effectiveness and performance. It is characterized by its ability to cultivate processes, environments, practices, structures, and leadership approaches that facilitate ongoing learning, support the expression of implicit knowledge, and facilitate efficient problem-solving techniques. These attributes, accordingly, bolster the organization's capacity to adapt and proactively respond to shifts in the business environment and evolving customer demands (Örtenblad, 2015). Moreover, a “learning organization” serves as a fundamental enabler of productive learning, enabling the acquisition of new knowledge and opportunities (Malik and Garg, 2017). Notably, various scholars, including Ponnuswamy and Manohar (2014), Pokharel and Choi (2015) and Kim et al. (2017) have investigated the relationship between LODs and organizational performance across different contexts. Their research consistently reveals a positive connection between “learning organization” components and “organizational performance.” Additionally, Marsick (2013) asserts that the concept of a “learning organization” promotes various mindsets that encourage leaders to consider technical and socio-cultural factors. This perspective fosters the development of systematic learning practices at individual, team, and organizational levels. Other studies have examined the relationship between organizational age and performance, with notable contributions by researchers such as Samosir (2018), Younis and Sundarakani (2019), Muslih and Marbun (2020), and Muharam and Atyanta (2021). Additionally, other studies by Fort et al. (2013) and Le Mens et al. (2015) have compared organizational age with its responsiveness to change. Similarly, research conducted by Spescha (2019) and Fan and Wang (2021) has examined the relationship between organizational age and R&D activities within the organization.

From an alternative perspective, several scholars have undertaken examinations of the myriad challenges that impede the efficient development of learning organizations. Kaminska and Borzillo (2018), for instance, shed light on the obstacles associated with establishing learning organizations, particularly those stemming from shifts in knowledge coordination processes. In a similar vein, Garvin (2003) delineated how some managers occasionally perceive the time allocated to learning as obligatory but unproductive—a perspective that regrettably reflects a limited understanding of the genuine impact

of learning. Furthermore, a number of scholars, including Sprinkle and Urick (2018) and Rupčić (2018b), have explored barriers to effectively developing learning organizations related to the dynamic process of learning and knowledge transfer between team members from different generational cohorts. Their research reveals that organizations often exhibit significant intergenerational diversity, with each generation manifesting distinct attitudes, value systems, and approaches. Such differences can impact the learning and knowledge-sharing processes in the organization. Additionally, Garvin et al. (2008) have identified that managers might lack awareness of the procedures required for establishing a "learning organization". This lack of awareness can extend to the absence of assessment tools to gauge employee learning and the potential benefits of this learning for the organization.

Conversely, numerous scholars have proposed a range of approaches and techniques to assist managers in effectively planning to transform their organizations into learning organizations. For instance, Shin et al. (2017) and Rupčić (2018a) delved into the complexities and challenges associated with fostering the active development of a learning organization. They underscored the importance of managerial awareness of these challenges and recommended the utilization of diverse techniques. Moreover, they emphasized that each organization must identify its own optimal path for self-improvement toward becoming a learning organization.

The "learning organization" encompasses several defining factors, including "organizational culture", "organizational structure", "leadership", "human resources practices", and "information systems" designed to facilitate work-related learning (Odor, 2018). Numerous researchers have explored the concept of a learning culture in organizations. Ravichandran and Mishra (2017) argued that fostering ongoing learning necessitates a culture that promotes teamwork, knowledge sharing, engagement in debates, and the emergence of new and thoughtful insights. In a similar vein, van Breda-Verduijn and Heijboer (2016) defined a learning culture as "the collection of norms, espoused values, and beliefs guiding employee behavior, likening it to the adhesive that binds the organization together." This culture fosters intellectual curiosity, motivating employees to find innovative methods to enhance their work and improve innovation and creativity.

Organizations with a strong learning culture have the capacity to adapt their strategies, techniques, and actions based on knowledge, experiences, and fresh perspectives, thus aligning with their strategic objectives (Dekoulou and Trivellas, 2015). Further, firms imbued with a learning culture possess the capability to acquire, generate, and disseminate knowledge, allowing them to adjust their behavior to apply newfound insights and knowledge, ultimately leading to improved performance and sustained competitiveness over time (Cooper et al., 2016; Rana et al., 2016).

Within the learning organization framework, employees engage in collective learning, continuously developing and honing their knowledge and skills to achieve the organization's desired results (Iqbal and Ahmad, 2020). The findings by Lin and Huang (2020) highlighted additional benefits of a learning culture, including fostering employee loyalty, job satisfaction, and enhancing organizational change efforts. Conversely, a learning organization actively shapes its organizational structure to underscore the importance of learning and to motivate employees to acquire new knowledge and enhance their skills, ultimately contributing to improved performance (Sitar and Škerlavaj, 2018). Several articles have underscored the pivotal role of leadership within the context of a "learning organization". For instance, Kim and Park (2019) have emphasized that leaders play a pivotal role in learning organizations. They can create a culture that values excellence and ethical conduct, encourage a spirit of continuous learning and sharing of knowledge, and motivate individuals to contribute their talents toward achieving the organization's objectives. This perspective aligns with other studies by Xie (2020) which assert that leaders within a "learning organization" can motivate employees to share knowledge and facilitating the transformation of implicit knowledge into explicit knowledge.

Similarly, Song et al. (2018) have affirmed that a "learning organization" thrives on strategic leadership, promoting collaborative learning, and demonstrating individual care to sustain a culture of continuous learning. In a similar vein, Pimonratanakan et al. (2017) and Sayed and Edgar (2019) have

found that leadership exerts a positive impact on the learning organization. Furthermore, Sahaya (2012) has confirmed a significant relationship between leadership styles and high scores indicating progress toward a learning organization.

Various scholars have investigated the association between the "learning organization" and "human resource practices". For instance, Malik and Garg (2020) have explored the significance of human resource management practices within the context of learning organization. They argue that human resource management practices should adapt to the requirements of a learning organization, facilitating and motivating employees to acquire and share new knowledge. Furthermore, practices such as empowerment, involvement in decision-making, and training within human resource management can support the free flow of information and knowledge sharing, thereby encouraging employees to align their skills and expertise with the learning organization's needs (López-Cabrales et al., 2011).

The concept of a "learning organization" aims to promote learning within the organization. This includes improving work processes, adaptation to the external environment, idea-sharing, resource allocation, experimentation, and the facilitation of open communication among employees at all organizational levels, with the ultimate goal of generating innovations (Lertpachin et al., 2013). The association between a "learning organization" and innovation has been the subject of examination in various studies. For instance, Yoon et al. (2010) and Fernandes et al. (2016) employed the "Dimensions of the Learning Organization Questionnaire" (DLOQ), which comprises seven dimensions, to gauge the extent to which organizations embody the "learning organization" concept. Their findings consistently indicated a positive correlation between the presence of a "learning organization" and innovation. Consequently, these studies suggest that organizations aspiring to set and achieve innovation goals should consider the seven dimensions of the DLOQ as essential factors. Furthermore, they emphasize that in today's dynamic and turbulent environment, organizations must cultivate a culture of innovation to lead, grow, and compete effectively.

In a different vein, Gil et al. (2018) studied the impact of leadership on the development of innovation capacity, focusing on the perspective of a learning organization. They employed a questionnaire developed by Garvin et al. (2008) to measure the learning culture within the organization. The study results highlighted a positive influence of the learning culture on innovation capacity. Additionally, it underscored the broad scope of a learning organization, encompassing various roles, with a particular emphasis on the opportunities for learning and personal development. The learning environment within such organizations provides employees with the chance to maximize their learning potential. Furthermore, the learning culture plays a vital role in reinforcing effective change processes, ultimately contributing to the development of innovation within the organization.

Looking from a different perspective, Park et al. (2014) conducted an investigation into the relationship between the "learning organization" and innovative behavior, considering the mediating role of work engagement. They employed the seven dimensions of the DLOQ to assess the presence of a learning organization. However, their results indicated that there was no significant direct association between the "learning organization" and innovative behaviors. Their conclusion suggested that for employees to actively seek innovative ideas and enhance their learning effectiveness within their organizations, they need to be engaged in their work.

In a similar vein, Ismail (2005) explored the effects of the creative climate and "learning organization" on innovation, employing the seven dimensions of DLOQ to gauge the extent of the learning organization. The results revealed that four dimensions of the "learning organization" (dialogue and inquiry, team learning, empowerment, and providing leadership) had no significant influence on innovation. However, the remaining three dimensions (continuous learning, systems connection, and embedded systems) exhibited a positive impact on innovation activities within local organizations. The recommendations stemming from this study emphasize the importance of encouraging employee inquiry and dialogue, promoting team learning, emphasizing employee empowerment, and inspiring strategic leadership to strengthen the relationship between the "learning organization" and innovation.

Numerous authors have explored the relationship between "learning organization" and "organizational performance". For example, studies by Ponnuswamy and Manohar (2014) and Pokharel and Ok Choi (2015) have investigated this relationship, employing the seven dimensions of the (DLOQ) as a measure of the learning organization. Across these studies, the findings consistently revealed a positive correlation between LDOs and "organizational performance." These studies suggest that learning and innovation play pivotal roles in enhancing and sustaining organizational performance. Therefore, organizations are advised to prioritize these areas and embark on the journey toward becoming learning organizations to drive performance improvement.

Multiple prominent authors have scrutinized the concept of the "learning organization" through a framework of dimensions. Table 1 offers a concise overview of these dimensions as proposed by leading authors in the field. For instance, Senge, (1990) stated that there are five dimensions of the learning organization "building shared vision, mental models, personal mastery, team learning, and systems thinking", which are essential disciplines in building organizations that can continuously and actually learn. Another tool was introduced by Marsick and Watkins (2003) to measure the learning organization at three levels (i.e., organizational, individual, and team levels). It includes seven dimensions "promote inquiry and dialogue, create continuous learning opportunities, encourage collaboration and team learning, empower people toward a collective vision, create systems to capture and share learning, provide strategic leadership for learning and connect the organization to its environment." They measured learning. (Örtenblad, 2002b) introduced an alternative conceptualization of the learning organization, presenting a typology encompassing four facets: "learning at work, organizational learning, fostering a learning climate, and establishing learning structures." While Garvin et al. (2008) illustrated the necessity of three foundational elements for the cultivation of a learning organization: "concrete learning processes and practices, supportive learning environment, and leadership that reinforces learning." In their approach, they designed a survey to evaluate the teams and departments' effectiveness in each building block. This assessment enables managers to identify areas requiring enhancement and facilitates progress towards establishing a learning organization.

Table1. Learning organization dimensions proposed by leading authors

Author	Senge, (1990)	Marsick and Watkins, (2003)	Örtenblad, (2004 a)	Garvin et al., (2008)
Dimensions	"Mental models personal mastery building shared vision systems thinking team learning"	"Connect the organization to its environment promote inquiry and dialogue encourage collaboration and team learning create continuous learning opportunities empower people toward a collective vision provide strategic leadership for learning create systems to capture and share learning"	"Learning at work organizational learning developing a learning climate creating learning structures"	"a supportive environment Concrete learning processes leadership that reinforces learning"

As organizations age, they accumulate valuable experience. In their early stages, companies may lack established routines and traditional solutions, prompting them to search for innovative ways to solve prob-lems and develop alternative solutions (Bruneel et al., 2010). Over time, organizations amass a repository of problem-solving procedures based on their past experiences, which may influence their approach to addressing current challenges. However, the prevalence of routines and established rules and procedures can sometimes hinder organizations from actively seeking new knowledge, solutions, or responses, leading to repetitive behaviors (Coad, 2018). From a different perspective, del Carmen Vásquez-Torres (2017) found that older institutions are more likely to adopt planned training programs compared to their younger counterparts. This suggests that organizational age can influence the approach to training and development within a company.

3. Hypothesis Development

Previous researchers have employed various categorizations to classify firms based on their age. For example, Esaku (2020) categorized firm age into four groups: very young firms aged from 0 to 5 years, young firms aged from 6 to 10 years, mature firms aged from 11 to 20 years, and old firms aged 21 years or more. In contrast, Hussein et al. (2014) divided firms into three groups: young firms aged from 0 to 5 years, intermediate firms aged from 6 to 10 years, and more than 10 years for old firms. In line with the population characteristics of this research, firms were classified into three categories based on their age: *young firms* which are less than 5 years, *intermediate firms* from 5 to less than 10 years, and *old firms* which are 10 years or more.

As cited by Evans (1987) in his study "Tests of alternative theories of firm growth," the concept of organizational age proposed by the learning theory presented by Jovanovic (1982) has been a subject of exploration in various studies. These investigations have aimed to uncover the relationship between the age of an organization and different dimensions, yielding diverse results. For instance, research by Sørensen and Stuart (2000) and Hui et al. (2013) has suggested that older organizations may have an advantage in employing information systems, accumulating experience in knowledge creation, and acquiring new competencies that contribute to innovation. Older firms may place greater emphasis on formal learning programs such as classroom training and e-learning modules. In contrast, younger firms may prioritize informal learning methods such as on-the-job training, mentoring, and peer-to-peer learning. Additionally, older organizations might have a more entrenched learning culture that is resistant to change, while younger organizations could possess a more adaptable learning culture that is open to new ideas and approaches (Coffie et al., 2021). Moreover, older firms are believed to have longer-lasting institutional memory, which enhances their ability to evaluate new knowledge and reduce the likelihood of misapplication (Khan et al., 2020). Further, Harrim (2010) conducted a study that combined the work of Marsick and Watkins (2003) and Senge (1990) to investigate the relationship between the "learning organization" and organizational performance. Harrim's study used six core dimensions (shared vision, teamwork and collaboration, systems thinking, leadership and empowerment, learning environment, and organizational culture) to assess the learning organization. The findings of their study indicated a strong positive relationship between the dimensions of the "learning organization" and organizational performance. It also recommended that future research should explore the impact of organizational characteristics such as age and size in fostering and sustaining the learning organization.

Different studies examined the relationship between the age of the organization and the learning organization in terms of "supportive learning environment, concrete learning process and practices, leadership that reinforces learning, and creating learning structures." For instance, Sørensen and Stuart, (2000); Hui et al., (2013) indicated that older organizations would be able to employ information system, gain more experience in creating knowledge, and acquire new competencies that could help them to produce new innovations. On the other hand, other studies such as Fraj et al., (2015) found that organizational age did not influence learning practices, innovation, and competitiveness. In addition, Coad et al., (2016) articulated that older firms may be susceptible to experiencing several forms of sloth, that may hinder the learning process and practice

Other studies, including those by Augusto Felício et al. (2012) and Ağca et al. (2012), found no significant impact of the organization's age on LDOs. Similarly, Moriano et al. (2011) and Cucculelli (2017) reported a non-significant or negative relationship between organizational age and LDOs. Additionally, Romero and Martínez-Román (2012) found that organizational age may foster innovation without playing a decisive role. In contrast, Le Bas and Poussing (2014) and Afshar Jahanshahi et al. (2018) reported a positive correlation between organizational age and LDOs.

In light of the preceding discussion and given the conflicting perspectives on the link between organizational age and LDOs, our study aims to empirically investigate this impact and examines whether there are variations in the facets of the "learning organization" attributable to the age of the organization. The logic behind hypothesizing that the age of the organization influences Learning Organization Dimensions (LODs) lies in the assumption that the developmental stage of an organization may shape its approach and commitment to fostering a conducive learning environment. Young firms, typically less than 5 years old, may be more agile and open to experimentation, fostering innovation in their learning processes. Intermediate firms, ranging from 5 to less than 10 years, might exhibit a

balance between stability and adaptability, affecting the various dimensions of a learning organization. On the other hand, older firms, with a tenure of 10 years or more, may possess established structures and practices that either facilitate or hinder learning dimensions.

In essence, the age categorization reflects different organizational life stages, each potentially influencing the emphasis placed on supportive learning environments, concrete learning processes, leadership's role in enforcing learning, and the creation of learning structures. The hypothesis anticipates that these age-related differences will manifest in distinct patterns across the identified learning organization dimensions. Consequently, Figure 1 shows the research model, and the following hypothesis has been formulated:

"The organization's age is associated with learning organization dimensions."

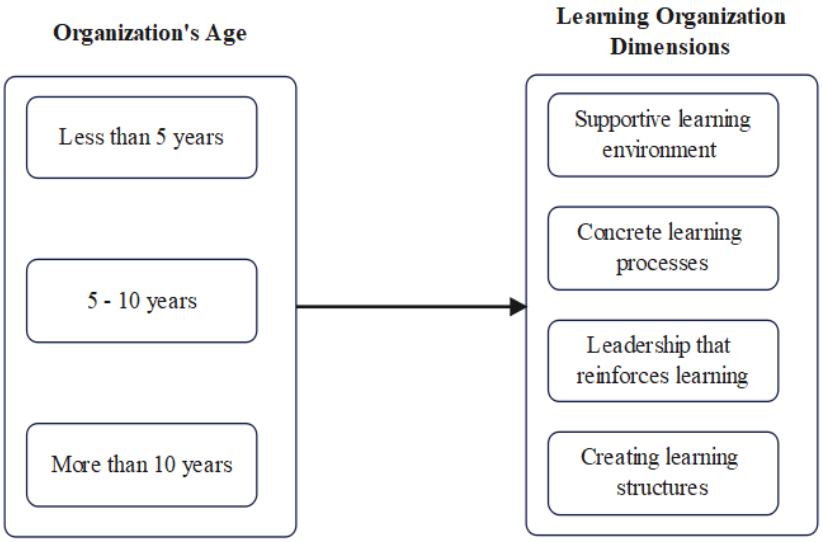

Fig1: Research Model

4. Methodology

This study explores the influence of "organizational age" on LODs by employing a mixed-method approach of qualitative and quantitative research methods. The primary approach utilized in this study is quantitative, with a structured questionnaire serving as the primary tool for data collection. In conjunction with the quantitative method, a complementary qualitative approach has been integrated to provide a more thorough and nuanced exploration of the subject matter.

4.1. Quantitative approach

For the purposes of data collection in this research, a five-point Likert scale questionnaire was utilized. The questionnaire comprises two distinct parts. The first part focused on inquiries related to the "organization's age" categorized into three specific groups. The second section was thoughtfully constructed following an extensive review of relevant literature. This segment comprised a comprehensive set of 35 statements, each aimed at assessing various dimensions associated with learning organization. These dimensions covered aspects such as establishing a collaborative environment, implementing practical learning practices and methods, fostering leadership that promotes learning, and establishing conducive learning structures. The questionnaire was structured into two distinct parts:

Part One: Company Age

This section inquired about the age of the participating companies and featured three distinct categories for respondents to select from:

- < 5 years
- 5 -10 years
- > 10 years

Part Two: Learning Organization Dimensions

This section comprehensively assessed various dimensions associated with the concept of a learning organization. It consisted of the following components:

1. Supportive Learning Environment

   This aspect examined the organizational environment's capacity to foster learning through the evaluation of four key attributes: "psychological safety", "appreciation of differences", "openness to new ideas", and "time for reflection". This section comprised 7 items, which were adapted from Garvin et al. (2008).

2. Concrete Learning Processes and Practices

   The second dimension probed the organization's processes and practices related to learning. This encompassed elements such as "experimentation", "information collection", "analysis", "education and training", and "information transfer". This segment featured 11 items, which were adopted from Garvin et al. (2008).

3. Learning-Focused Leadership

   This dimension explored the role of organizational leaders in facilitating and promoting learning. It assessed managerial behavior and their readiness to encourage and motivate workers to contribute new ideas, engage in learning, inquire, and participate in dialogues. This section comprised 8 items, which were adapted from Garvin et al. (2008).

4. Creating Learning Structures

   The final dimension delved into the organizational structure that supports learning. This was assessed through characteristics such as flatter organization hierarchies, decentralization, low formality, and team-based structures. This section featured 9 items, which were developed by the authors, drawing inspiration from Ortenblad (2004; 2015). The questionnaire, designed with careful consideration of these elements, aimed to comprehensively capture the various facets of a "learning organization" within the participating companies.

To evaluate the instrument's comprehensiveness, the researchers followed a face-validity process in line with Al-Fraihat's (2019) recommendations. The questionnaire was submitted for review to a panel of experts comprising faculty members from different universities in Jordan, specializing in the field of business. For the assessment of reliability, Cronbach's alpha was employed. Table 2 displays Cronbach's Alpha values associated with the questionnaire's dimensions. Notably, the values were within the range of 0.890 to 0.950, exceeding the accepted threshold of 0.7 as indicated by Al-Fraihat et al. (2020). This suggests that the questionnaire is dependable, with its items demonstrating a high level of consistency.

Table 2. Reliability of Constructs

Constructs	Cronbach Alpha Coefficient	Number of Items
Supportive learning environment	0.898	7
Learning process and practices	0.932	11
Leadership that reinforces learning	0.944	8
Creating learning structures	0.897	9

In this study, a meticulously designed questionnaire was employed to investigate potential variations in LODs associated with the age of organizations. The questionnaire was subsequently distributed to participants within the pharmaceutical sector in Jordan. This sector was chosen due to its prominence in pharmaceutical manufacturing, as evidenced by its historical success for Jordanian pharmaceutical firms, both domestically and internationally, as documented by Alkalha et al. (2019). The pharmaceutical sector holds significant importance in Jordan, ranking among the country's most critical industries and enjoying substantial global market presence. As highlighted by Altawalbeh et al. (2020), over 75 percent of pharmaceutical products produced in Jordan are exported to more than 80 countries worldwide, emphasizing its role as the country's second-largest export sector. This sector places a strong

emphasis on research and development, continually striving to enhance competitiveness both locally and globally. The unique position and characteristics of the pharmaceutical sector in Jordan provide a rich context for assessing LODs, making managers within this industry particularly relevant informants for our study.

To establish the sample frame for this study, the researchers contacted the Jordanian Association of Pharmaceutical Manufacturers (JAPM) to acquire information regarding the number of employees within each pharmaceutical company. In total, there are twenty-four (24) pharmaceutical companies in Jordan, collectively employing 787 managers. The rationale for involving managers in this study is rooted in the belief that they possess a deeper understanding of the organization's status regarding "learning organization dimensions." Managers play a pivotal role in shaping and implementing organizational learning strategies, actively fostering an environment conducive to knowledge sharing among employees and providing the essential resources and time for nurturing new ideas, as posited by Garvin et al. (2008).

Managers have a diverse array of roles within the organization, encompassing facilitation, synthesis, implementation, and advocacy, all of which nurture adaptability, inspire and coach employees, promote learning, and facilitate information exchange. They have a significant role to support and motivate employees' initiatives to explore new opportunities, as highlighted by Blanka (2019). Moreover, as noted by Garvin et al. (2008), managers often possess a holistic understanding of how employees' learning endeavors contribute to the organization as a whole. This perspective aligns with the rationale for examining the "learning organization" from the managerial vantage point in this research.

The sample size for this research was determined using the Krejcie and Morgan table, a widely recognized tool in research studies for ensuring a reliable estimate of sample size (Sekaran and Bougie, 2016, p. 263). According to the table, the appropriate sample size for the population of interest was found to be 263. It's important to note that the Krejcie and Morgan table provides a range of sample sizes for different population sizes and levels of precision. In this case, the population size was not explicitly mentioned in the text, and the sample size of 263 was reported as the number of completed questionnaires used in data analysis. Therefore, there's no need to provide examples of sample size calculations for various population sizes in this context. It suffices to state that the sample size of 263 was determined using the Krejcie and Morgan table and was considered suitable for addressing the research question.

4.2. Qualitative approach

All Utilizing a predominantly quantitative methodology with a partial incorporation of the qualitative approach, this study assesses the correlation between LDOs and organizational age. Open-ended questions were asked in the interviews, focusing on key themes related to learning organizations. This facilitated a comprehensive exploration of existing themes and the identification of potential emerging themes. Additionally, various pertinent questions were included in the interviews to gather in-depth information on the subject matter.

A total of 9 managers in the pharmaceutical sector in Jordan were semi-structured interviewed. Participants with relevant backgrounds and experiences were selected to enabling the collection of detailed and profound information while mitigating bias. Our qualitative sampling strategy utilizes purposive sampling to identify participants with pertinent backgrounds and experiences possessing rich and in-depth information about the research variables. Specific criteria were established to select participants based on distinctive characteristics, ensuring detailed and unbiased information. To achieve this, three interviews each were conducted with participants representing small, medium, and large organizations. One of the criteria for participant selection was their job title, requiring individuals to hold managerial positions. During these interviews, participants were questioned on various facets concerning the learning organization. This encompassed inquiries into the significance of supportive learning environments, the efficacy of learning processes and practices, the role of leadership in

reinforcing learning, and the establishment of learning structures. Table 3 displays the organizations and participant codes.

Table 3. Organizations and Participants' Coding

Organization	Participant	Organizations' Age
A	P1	less than 5 years
B	P2	5-less than 10 years
C	P3	less than 5 years
D	P4	5-less than 10 years
E	P5	5-less than 10 years
F	P6	10 years – more
G	P7	10 years – more
H	P8	10 years – more
I	P9	10 years – more

5. Results

5.1. Hypothesis testing results

In this study, "organization age" was measured by calculating the period between the year of establishment and the current year. Based on this calculation, organizations were organized into three categories: (1) less than 5 years, (2) 5 to 10 years, and (3) 10 years or more. Table 4 provides a description of the data collected for each category.

Table 4. Data Description of the Organization Age

Variables	Categories	Frequency	Percentage
Age of company	Less than 5 years	11	4.2
	5 – less than 10 years	38	14.4
	10 years – more	214	81.4

To examine and test the research hypothesis, "There are significant differences in learning organization dimensions attributed to the organization's age," ANOVA test at 95% confidence interval was conducted for all variables. Table 5 shows that the p-values of all LODs are greater than significance level of 0.05. Therefore, there is no statistically significant difference in the respondents' responses towards these variables concerning the organization's age.

Table 5. Results of Hypothesis Testing for Learning Organization Dimensions

Learning Organization Dimensions		Sum of Squares	DF	Mean Square	F	eta-squared $\eta 2$	Sig.
Supportive learning environment	Between Groups	0.884	2	0.442	0.921		0.399
	Within Groups	124.710	260	0.480			
	Total	125.594	262			0.007	
Learning process and practices	Between Groups	1.582	2	0.791	1.644		0.195
	Within Groups	125.046	260	0.481			
	Total	126.628	262			0.012	
Leadership that reinforces learning	Between Groups	2.230	2	1.115	2.039		0.132
	Within Groups	142.167	260	0.547			
	Total	144.397	262			0.015	
	Between Groups	0.326	2	0.163	0.386		0.680

Learning Organization Dimensions		Sum of Squares	DF	Mean Square	F	eta-squared $\eta 2$	Sig.
Creating learning structures	Within Groups	109.684	260	0.422			
	Total	110.010	262			0.003	

5.2. Qualitative results

The quantitative results did not empirically support the proposed hypothesis in our study. Therefore, to gain a more comprehensive understanding of the influence of organizational age on LODs, nine semi-structured interviews were conducted. During these interviews, participants were asked about several aspects related to the learning organization, including the importance of supportive learning environments, learning processes and practices, leadership that reinforces learning, and creating learning structures.

All the interviewees, regardless of their organization's size and age, highlighted the importance of training as a key learning practice that assists employees in improving their skills and acquiring new knowledge. Additionally, they emphasized that pharmaceutical companies in Jordan place significant emphasis on studying both local and international markets to gather information about customers and competitors. This international focus is primarily due to the small size of the Jordanian pharmaceutical market and the intense competition within it.

Furthermore, all the participants stressed the crucial role of leadership in encouraging employees to share their opinions and ideas. They also noted that employees are well-aware of their organization's mission and vision, indicating a strong alignment between employees and the organizational goals.

During the interviews, participants emphasized a critical aspect related to the organization's ability to strike a balance between nurturing employee development and retaining valuable talent. They underscored that a key solution to this challenge lies in cultivating and enhancing employee loyalty. For instance, Participant 2 (P2) articulated, *"The company's success lies in fostering loyalty among its employees. When there's a strong sense of loyalty from employees toward the company, they are more inclined to share their innovative ideas. They perceive themselves as integral parts of the company and are motivated to contribute to its growth and development because they anticipate recognition and rewards for their ideas.*" Similarly, Participant 6 (P6) highlighted, "*An employee who achieves financial independence and enjoys a stable financial situation may willingly share their ideas with the company, driven solely by their loyalty to the organization.*"

Furthermore, Participant 9 (P9) added valuable insights, stating, "*One drawback my company faces when implementing these strategies is that some employees resign after gaining valuable experience and training, venturing to start their own projects. As their knowledge and experience expands and their financial stability improves, they actively seek new opportunities and eventually resign themselves to pursue their own ventures. Only those employees deeply committed to the company, driven by loyalty, choose to stay and turn down personal opportunities.*"

The participants collectively emphasized that organizations, regardless of their size, must remain mindful of the pivotal role played by leaders in inspiring employees to offer fresh ideas, engage in continuous learning, embrace inquiry, and foster open dialogue. For instance, Participant 5 (P5) elucidated, *"Regarding information sharing, it heavily hinges on the personality and mindset of the manager. If the manager encourages employees to interact, exchange ideas, and cooperate, information sharing thrives. However, if the manager prefers minimal interaction among employees, it can stifle information sharing unless done under direct supervision and deemed necessary."*

Participants underscored the importance of achieving a delicate balance between organizational structure and flexibility as a company grows. Introducing a flexible organizational structure can significantly enhance the implementation of intrapreneurial activities. Moreover, managers must possess an understanding of organizational structure, flexibility, the chain of command, and the span of control. As Participant 7 (P7) noted, *"The flexibility to share knowledge and facilitate employee rotation is contingent on company structure. However, it heavily depends on the department manager's disposition. One of their key roles is to grant employees the autonomy to transition between sections or departments."*

Taking an alternative viewpoint, participants underscored the necessity of a more structured approach to the development of a "learning organization" and the promotion of intrapreneurship. This

entails delegating specific departments with the responsibility of spearheading these endeavors, nurturing employees' creativity, actively encouraging idea generation and soliciting input from employees, and instituting evaluations for both employees and managers. Participant 5 (P5) further elaborated, stating, *"It is my expectation that organizations should recognize the imperative of overseeing the development, training, and motivation of their employees. This involves ensuring that all facets of learning are present. When left solely to the discretion of either the manager or the employee, success is attainable but often at a reduced rate compared to a structured and monitored process led by specialists within the organization. It is critical that ideas are evaluated impartially, thereby minimizing the influence of a manager's personal biases concerning new ideas, change, or the dynamics of the employee-manager relationship."*

Consistently, participants emphasized the profound importance of establishing a "learning organization" as a foundational prerequisite for fostering intrapreneurship. Organizations, irrespective of their size, must cultivate a supportive learning environment and implement practices that facilitate learning, all while striking a harmonious equilibrium between learning structures and the dissemination of information. In the absence of such a conducive atmosphere, coupled with conducive learning practices, recognition, employee loyalty, and awareness, employees may find themselves entrenched in their comfort zones, potentially stifling the generation of innovative ideas and hindering knowledge sharing. Moreover, participants emphasized the crucial role of managerial dispositions and their attitudes toward learning and idea sharing. This aspect becomes especially pertinent in medium-sized organizations, where hierarchical structures often empower departmental managers to assess employee ideas. Hence, medium-sized enterprises must remain attuned to their organizational culture, the inclinations of their managers, and their orientations regarding these matters.

6. Discussion

This study brings several distinct contributions to the existing body of literature. It introduces a novel approach to measuring the learning organization, which combines three dimensions initially proposed by Garvin et al. (2008): "a supportive learning environment, concrete learning processes and practices, and leadership that reinforces learning." Additionally, it integrates a fourth dimension developed by Örtenblad (2004) – the creation of learning structures. Notably, this research marks the first empirical investigation into the "learning organization" that incorporates these four dimensions together.

The decision to incorporate Örtenblad's dimension of creating learning structures alongside Garvin et al.'s three dimensions is justified for several reasons. Firstly, this dimension has demonstrated its significance in previous studies (Senge, 1990; Marsick and Watkins, 2003). Secondly, various other research works (e.g., Kuratko et al., 2014; Örtenblad, 2015; Blanka, 2019; Alam et al., 2020) have highlighted the pivotal role of organizational structure in either facilitating or impeding intrapreneurship initiatives. Thirdly, despite Örtenblad's extensive body of work, including publications such as Örtenblad (2001), Örtenblad (2002a, b), Örtenblad (2004b, a), Örtenblad (2007, 2010, 2013, 2015, 2018), which are related to the typology of the "learning organization," there has been no prior research utilizing Örtenblad's dimensions to gauge the concept of the learning organization. Consequently, this research represents the pioneering attempt to investigate the aspect of creating learning structures, as introduced by Örtenblad (2002b).

Furthermore, while numerous studies have explored the concept of the "learning organization" across diverse industries and sectors, encompassing healthcare, higher education, the non-profit sector, the public sector, schools, and the private sector, this research adds value to the literature by examining the "learning organization" within the pharmaceutical sector in a developing economy, specifically Jordan.

The age of organizations has been a subject of considerable research attention over time (Kücher et al., 2020). Within literature, numerous studies have explored the association between organization age and various factors, yielding diverse findings. For instance, Muharam and Atyanta (2021) reported a positive correlation between organization age and performance, while Younis and Sundarakani (2019) and Muslih and Marbun (2020) found no significant impact of organization's age on performance. Conversely, Coad et al. (2013), Rafiq et al. (2016), and Coad (2018) identified a negative relationship between organization's age and performance.

The relation between an organization's age and its growth has also been a focus of research. Coad et al. (2014) discovered a negative association between organization age and growth. Additionally, Fort et al. (2013) and Le Mens et al. (2015) examined firm age and its responsiveness to change, concluding that younger firms exhibit greater agility and sensitivity to change compared to older firms. Fan and Wang (2021) observed that younger firms tend to invest more in R&D activities than older ones. In contrast, Spescha (2019) and Rahman and Yilun (2021) noted that older firms, in some cases, possess larger R&D departments handling extensive projects, while younger firms may lack such capabilities.

This study undertakes a comparison of LODs in relation to the age of organizations to determine whether organizational age influences the implementation of a "learning organization" in pharmaceutical sector. The results indicate that there are no significant differences in LODs associated with a company's age. Contrary to our directional hypothesis, the results reveal no significant differences in LODs associated with the age of organizations. This unexpected outcome prompts a critical reflection on potential factors contributing to this counterintuitive result. Comparing our findings to existing literature, Thérin (2010) and Rebelo and Gomes (2011) similarly found no clear association between organizational age and learning. Interestingly, Rebelo and Gomes (2011) even identified a negative correlation between organizational age and the learning culture, suggesting a nuanced relationship that merits exploration. Liu et al. (2015) proposed that younger organizations might excel in knowledge acquisition from owners or employees, implying a potential advantage in the early stages.

In the context of the pharmaceutical industry in Jordan, characterized by intense competition and unique challenges, our results may be influenced by specific industry dynamics. The sector's rapid growth, often driven by market entry strategies and compliance with stringent regulations, may mitigate the traditional effects of organizational age on learning.

Furthermore, the pharmaceutical sector's emphasis on continuous learning, regardless of organizational age, aligns with broader principles. Organizations, irrespective of their age, must cultivate a supportive learning environment, challenge routines, encourage idea sharing, and invest in employee training. Our study suggests that these fundamental principles may overshadow age-related distinctions, highlighting the universality of fostering learning in organizational contexts.

In conclusion, while our findings diverge from the anticipated direction, they contribute to a nuanced understanding of the intricate relationship between organizational age and learning within the pharmaceutical industry. Future research should delve deeper into sector-specific influences, methodological considerations, and theoretical nuances to refine our comprehension of LODs in diverse organizational contexts.

7. Conclusion, Limitations, and Avenues for Future Research

In contrast to the directional hypothesis, the quantitative results suggest organizational age does not necessarily determine the emphasis placed on dimensions of learning organizations within the pharmaceutical sector. However, the qualitative findings indicate some commonalities in practices conducive to learning across younger and older firms. The study serves to raise considerations about whether and under what circumstances the degree of establishment influences organizational learn-ing facilities. Methodological limitations should also be noted regarding cross-sectional surveys, single sector generalization, a focus on manager perceptions, and the specific set of LOD measures applied

The present study has unveiled certain limitations, which, in turn, offer valuable guidance for future research in this domain. Firstly, the research was delimited to the pharmaceutical sector within the Jordanian context for the purpose of hypothesis testing. Consequently, an area of potential inquiry pertains to the extension of this research to encompass different industry sectors, allowing for comparative analysis across sectors. This comparative approach could facilitate a deeper understanding of the generalizability of findings and the potential contextual variations in the relationships between organizational age and LDOs.

Secondly, it is noteworthy that the data utilized in this research emanated from a developing economy, specifically the Jordanian milieu, to scrutinize the hypothesized relationships. Future research endeavors may contemplate the exploration of these relationships within developed economies. Such a comparative investigation, spanning both developing and developed economic contexts, may provide

nuanced insights into the nuances and variations in the interplay between organizational age and "learning organization dimensions."

Thirdly, the data collection process in this study predominantly relied on input from managerial personnel within the sampled organizations. To enhance the depth and breadth of empirical findings, and to encompass a broader spectrum of organizational perspectives, prospective research initiatives could consider soliciting data from non-managerial employees. This methodological expansion, involving data collection from both managerial and non-managerial cohorts, may unveil potential divergences or convergences concerning LODs attributed to organizational age.

Additionally, Key future directions include vetting results across other industries and national contexts, longitudinally tracking maturation effects, incorporating multiple stakeholder perspectives, and continuing to refine models linking age to learning organization strategies and success factors.

Finally, refining the research methodology, enhancing the precision of measurements, and considering innovative approaches to capture a more comprehensive understanding of the intricate relationships between organizational age and LDOs. By focusing on study design improvements, future research endeavors can contribute to the advancement of methodological rigor and deepen our insights into the dynamics of organizational learning within different contexts.

In conclusion, these recommendations for future research underscore the potential avenues for further scholarly exploration within the domain of organizational learning. By addressing the aforementioned limitations and considering alternative dimensions, forthcoming research endeavors stand to enrich and advance the extant body of knowledge in this field.

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